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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,885	12/26/2001	Michael A. Tedesco	4241-4001	1635

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EXAMINER	
LE, DEBBIE M	

ART UNIT	PAPER NUMBER
2177	

DATE MAILED: 04/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/034,885	TEDESCO, MICHAEL A.	
	Examiner	Art Unit	
	DEBBIE M LE	2177	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 December 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-105* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-105* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-10, 12-19, 21-37, 39-60, 62-67, 69-83, 85-89, 91-103 are rejected under 35 U.S.C. 102(e) as being anticipated by

Al-omari et al. (USP 6,438,741 B1).

As per claims 1, 25-27, Al-omari discloses a rule based system to identify the complexity of a query prior to applying a rule comprising:

receiving a database query directed to a database engine (fig. 2, #148, 152;

evaluating the query to determine system usage, as the cost components measure the resource usage associated with a query operator (fig. 2, query optimizer,

col. 4, lines 53-55), **prior to submission of the query to the database engine** (abstract, line 3); and

rejecting the query if the system usage surpasses a threshold value, as if the complexity of the query is above a threshold, determines whether the rule should be applied, not applying the rules based upon the flow rates (abstract, lines 4-5, col. 5, lines 20-25) and as if the cost exceeds the content's cost limit, a plan is not generated for the expression and the task terminates (col. 33, lines 2-3).

As per claim 2, Al-omari teaches wherein said receiving further comprises:

receiving the database query from a user, as a user transmits ...an input query (col. 10, lines 64-65).

As per claim 3, Al-omari teaches, wherein said evaluating further comprises:

evaluating the query based on at least one of : a parameter of the query, a number of relational databases used by the query, a size of a data field to be searched for the query, an availability of resources of a system maintaining the database engine, a number of relational database tables to be employed for the query, a limitation imposed on a size of a query result set, a number of columns of data to be returned in a query result set, a cost of a similar stored query and a number of function calls for the query, as attributes, parameters (col. 15, lines 48-49, col. 16, lines 17, 35-59, col. 29, lines 9-27).

As per claim 4, Al-omari teaches,

assigning a score (weight) **to the query based on said evaluating** (col. 4, lines 43-51), **wherein said rejecting occurs when the score surpasses the threshold value**, as costs exceed the upper bound are eliminated (col. 2, lines 30-32).

As per claim 5, Al-omari teaches, wherein said **assigning comprises: assigning a value to a plurality of system performance variables; determining a cost of the based on a weighted evaluation of at least one of said variables,** as the cost associated with each expression, each criterion is weighted, the weights are adaptive (col. 16, lines 13-24).

As per claim 6, Al-omari teaches

storing the query and the determined cost of the query, as the cost can represent a more accurate estimate of the computational expense associated with executing an expression (col. 3, lines 51-53).

As per claim 7, Al-omari teaches, **wherein said system usage comprises at least one of: estimated processor usage, estimated memory usage, input/output resource usage and disk resource usage for a system maintaining the database engine to process the query**, as resource usage (col. 4, lines 55-67, col. 5, lines 1-8).

As per claim 8, Al-omari teaches, **wherein said threshold value is determined based on a category of a user submitting the query**, as organized into equivalence classes denoted as groups (col. 2, lines 48-59).

As per claim 9, Al-omari teaches, wherein the category of the user is determined based on a history of queries submitted by the user (the same query, col. 16, lines 20-21).

As per claim 10 , Al-omari teaches, **wherein said history of queries comprises histories of scores of previous queries submitted by the user**, as a subsequent pass can utilize solutions obtained in a previous pass (col. 18, lines 30-65).

As per claim 12, Al-omari teaches, further comprising:

submitting the query to the search engine if the system usage is less than the threshold value, as meet the cost limit (col. 15, lines 4-16).

As per claim 13, Al-omari teaches, wherein said rejecting further comprises:

editing (modifying) **the query so that the system usage is less than the threshold value** (cutting) **and submitting the query to the database engine** (col. 5, line 25).

As per claim 14, Al-omari teaches, **wherein said editing comprises at least one of: providing an alternate search parameter, and providing a limit on the number of results for the query**, as not applying (cutting) a mergejoin rule for a join expression when an inner table is small enough to be stored in a memory space (col. 5, lines 26-39).

As per claims 15-17, Al-omari teaches transmitting a result of the query, after said submitting, transmitting the result of the query to the user, transmitting a portion of the result of the query to a user (col. 8, lines 8-11, 62-67).

As per claim 18, Al-omari teaches, wherein said editing further comprises: substantially optimizing the query for usage of system resources (col. 12, lines 48-53).

As per claim 19, Al-omari teaches, wherein said submitting comprises: submitting the query to a second database engine (col. 8, lines 3-9).

As per claim 21, Al-omari teaches, wherein said rejecting further comprises: offering an alternative query in place of the rejected query (col. 15, lines 41-45).

As per claim 22, Al-omari teaches, wherein said receiving, evaluating and rejecting are performed by a screening server prior to submission of the query to a database engine (fig. 2, abstract).

As per claim 23, Al-omari teaches, wherein the database query comprises structured query language (col. 10, line 67).

As per claim 24, Al-omari teaches, further comprising: storing the query (col. 2, lines 48-50).

As per claims 28, 48, 49, 50, Al-omari teaches

receiving a database query directed to a database engine (fig. 2, #148, 152;

evaluating the query to determine system usage, as the cost components measure the resource usage associated with a query operator (fig. 2, query optimizer, col. 4, lines 53-55), **prior to submission of the query to the database engine** (abstract, line 3); and

submitting the query to the database engine if the system usage does not surpass a threshold value, as if the cost does not exceed the context's cost limit, a plan is created for the expression (col. 33, lines 3-10).

As per claims 51, 71, 73, 74, 92, 93, 94, Al-omari teaches

receiving a database query directed to a database engine (fig. 2, #148, 152;

evaluating the query to determine system usage, as the cost components measure the resource usage associated with a query operator (fig. 2, query optimizer,

col. 4, lines 53-55), **prior to submission of the query to the database engine** (abstract, line 3); and

editing the query if the system usage surpass a threshold value, as apply one or more pruning heuristics to the expression, the binding, and/or the substitute (col. 5, lines 17-43, col. 15, lines 33-45).

Claims 95-97, 100, 101, 102 are rejected by the same rationale as state in independent claim 1 argument. Furthermore, Al-omari teaches revised search criterion (col. col. 5, lines 17-43, col. 15, lines 33-45).

Claim 103 is rejected by the same rationale as state in independent claim 1 argument. Furthermore, Al-omari teaches evaluating based on at least one of : a parameter of the query, a number of relational databases used by the query, a size of a data field to be searched for the query, an availability of resources of a system maintaining the database engine, a number of relational database tables to be employed for the query, a limitation imposed on a size of a query result set, a number of columns of data to be returned in a query result set, a cost of a similar stored query and a number of function calls for the query (col. 16, lines 35-59, col. 29, lines 9-27);

Wherein the threshold value is based on least one of: estimated processor usage, estimated memory usage, input/output resource usage and disk resource usage for a system maintaining the database engine to process the query (col. 5, lines 55-67, col. 1-8);

Claims 29-37, 39-46, 52-60, 62-67, 69-70, 75-83, 85-89, 98-99 have similar limitations as to claims 2-10, 12-24; therefore, they are rejected by the same subject matter.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 20, 68, 90, 104 and 105 are rejected under 35 U.S.C. 103(a) as being unpatentable over Al-omari et al. (USP 6,438,741 B1) in view of Driesch, JR. et al (USP Application No. 2003/0065648 A1).

As per claims 20, 68 and 90, Al-omari teaches user submits a query to the database server, the database server processes the query and retrieve the results back to the user (col. 8, lines 5-11). However, Al-omari does not explicitly teach offering to provide a portion of a result of the rejected query to the user; submitting the rejected query to the server. Driesch teaches **offering to provide a portion of a result of the rejected query to the user**, as the execution time for the plan exceeds the predictive query threshold, the query implementation information is logged and be accessed later (fig. 2, ¶ 0028, 0033) and **submitting the rejected query to the server**, as otherwise, the query implementation information is not logged, it continues process the query (¶

0033). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references to implement the step of displaying a result of the rejected query to a user so that the user can have fully access control to the query either to continue by modifying or terminate the query as the user wishes. It would enable determining system efficiency.

As per claim 104, Al-omari does not explicitly teach monitoring the actual system usage of the query after submission to the database engine and store the database query and the actual system usage. However, Driesch teaches **monitoring the actual system usage of the query after submission to the database engine**, as monitoring routine 133 (¶ 0028) **store the database query and the actual system usage**, as log 134 (¶ 0028). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references to provide the step of monitoring the actual system usage of the query after submission to the database engine and store the database query and the actual system usage because it would enable determining system efficiency (¶ 0007).

Claim 105 is rejected by the same rationale as state in independent claims 1, 103 argument. Additional, Al-omari teaches SQL query (col. 10, lines 67). Al-omari does not explicitly teach monitoring the actual system usage of the SQL query after submission to the database engine and storing the SQL query and the actual system usage. However, Driesch teaches **monitoring the actual system usage of the query after submission to the database engine**, as monitoring routine 133 (¶ 0028) **store the database query and the actual system usage**, as log 134 (¶ 0028). Thus, it would

have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references to provide the step of monitoring the actual system usage of the query after submission to the database engine and store the database query and the actual system usage because it would enable determining system efficiency (¶ 0007).

Claims 11, 38, 61, 84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Al-omari et al. (USP 6,438,741 B1) in view of Messina (USP Application No. 2003/0061215 A1).

As per claims 11, 38, 61, 84, Al-omari does not teaches, wherein the category comprises one of a plurality of categories of increasing accessibility rights. However, Messina does teach a plurality of categories of increasing accessibility rights (¶ 0045, 0046). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references to implement the step of providing a category which stores levels of access for a user in order to allow the user to earn access rights to various portions of the database to perform his or her daily job duties or as their needed.

Conclusion

If a reference indicated as being mailed on PTO-FORM 892 has not been enclosed in this action, please contact Lisa Craney whose phone number is (703) 305-9601 for faster service.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEBBIE M LE whose telephone number is 703-308-6409. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN BREENE can be reached on 703-305-9790. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DEBBIE M LE
Examiner
Art Unit 2177

Debbie Le

March 31, 2004.

GRETA ROBINSON
PRIMARY EXAMINER